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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,670	10/10/2001	James E. Sealey II	23441B	9294

28624 7590 09/16/2003

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EXAMINER

ALVO, MARC S

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/975,670	SEALEY ET AL.	
	Examiner	Art Unit	
	Steve Alvo	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 6) ☐ Other: \_\_\_\_\_

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It is noted that the instant claims have an effective filing date of May 18, 2000 which is the date that the term "alkaline pulp comprising cellulose and at least 7% hemicellulose under alkaline conditions with an amount of oxidant sufficient to reduce the average degree of polymerization of the cellulose" was first disclosed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over GANNON et al (6,042,769) in view of WO 99/16960 and SAMUELSON et al (5,985,097) with or without LUO et al (6,210,801).

Gannon et al fairly disclose a process for making lyocell fibers comprising the steps of: (a) contacting an alkaline pulp comprising cellulose and hemicellulose under alkaline condition with an amount of oxidant (hydrogen peroxide or ozone) sufficient to reduce the average degree of polymerization of the cellulose to the range of from about 200 to about 1100 and (b) forming the fibers from the pulp treated in accordance with step (a) (see cols. 2-6). Gannon et al teaches the claimed invention except for the limitation of of without substantially reducing the hemicellulose content of the pulp or substantially increasing the copper number. Claim 10, see GANNON et al column 3, lines 8-10. WO 99/16960 teaches that alkaline pulp, e.g. kraft pulp treated with sodium hydroxide, is particularly useful in the manufacture of lyocell. It would have been prima facie obvious from the teachings of WO 99/16960 to use alkaline kraft pulp as

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the fiber of GANNON et al. SAMUELSON et al teaches that the catalysation of the depolymerization of cellulose and hemicellulose during peroxide bleaching can be controlled by monitoring and controlling the ratio of transition metals and Mg in the pulp (column 4, lines 10-22 and 45-47). It would have been obvious to prevent the degradation of the hemicellulose and cellulose in the cellulosic material of GANNON et al by adding the proper amount of Mg as taught by SAMUELSON et al. Obviously such addition would avoid substantial reduction of the hemicellulose content, which would not be degraded. Since the copper number is directly related to the cellulose degradation, see specification, page 16, lines 8-20, it would have been obvious that preventing cellulose degradation by adding Mg to the pulp during peroxide bleaching as taught by GANNON et al, would prevent an increase in the copper number. It is noted the term "without substantial increasing of the copper number" when read in view of the specification includes increases up to 100%, which is not a preventing of a copper number increase. If necessary, LUO et al teaches decreasing the copper number by treating pulp with sodium borohydride. If necessary, it would have been obvious to prevent an increase in the copper number by treating the lycocell with sodium borohydride to decrease the copper number as taught by LUO et al. The kraft pulp of WO 99/16960 is the same pulp used by Applicant and would have the same hemicellulose content as the instant pulp.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The term "without substantial increasing of the copper number", when read in view of the specification includes increases up to 100%. A doubling of the copper number is a substantial increase in copper number. Thus the term is indefinite.

The argument that GANNON uses a different starting material than the instant process is not convincing as it would have been obvious to use kraft pulp from the teachings of WO 99/16960.

The argument that Applicant is allowed to define terms in the specification is correct. However, the definitions must be within that conventionally used in the art. The art would not recognize a doubling of copper number to be "without substantial increasing".

When filing an "**Official**" FAX in Group 1730, please indicate in the Header (upper right) "**Official**" for papers that are to be entered into the file. The "**Official**" FAX phone numbers for this TC 1700 are:

**Non-Final Fax:** (703) 872-9310      **After-Final FAX:** (703) 872-9311.

When filing an "**Unofficial**" FAX in Group 1730, please indicate in the Header (upper right) "**Unofficial**" for Draft Documents and other Communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers. The "**Unofficial**" FAX phone number for this Art Unit (1731) is (703) 305-7115.

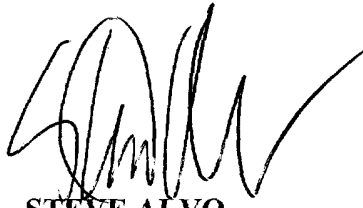
Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is (703) 308-2048. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Steve Griffin, can be reached on 703-308-1164.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **703-308-0661**.

MSA  
9/4/03



**STEVE ALVO**  
**PRIMARY EXAMINER**  
**ART UNIT 1731**